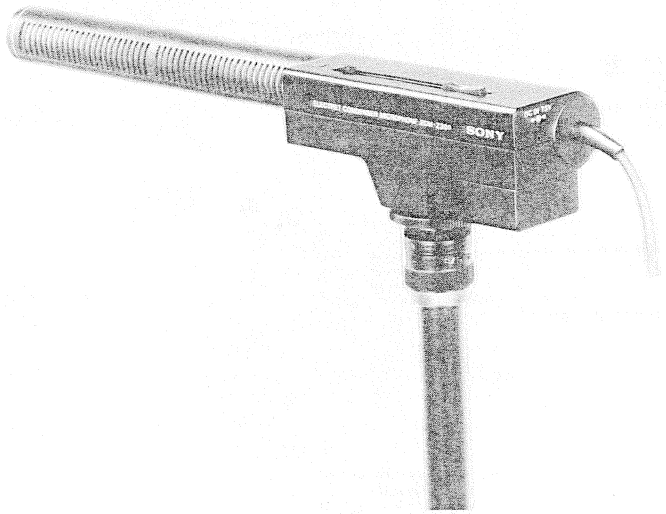
ECM-Z300

E Model
US Model
AEP Model
UK Model
Canadian Model



ELECTRET CONDENSER MICROPHONE

SPECIFICATIONS

General

Type: Electret condenser microphone (with back-electret condenser capsules)

Microphone output plug: L-shaped miniplug

Battery: Battery 6F22 (IEC designation)

Dimensions: Microphone head: 23 dia. × 174 mm ($\frac{7}{8} \times 6\frac{7}{8}$ inches)
Microphone body: 111 × 44 × 58 mm (w/h/d) ($4\frac{3}{8} \times 1\frac{3}{4} \times 2\frac{3}{8}$ inches)

Weight: Approx. 195 g (6.9 oz) . . US model
Approx. 235 g (8.3 oz) . . E, AEP, UK, Canadian model (including battery)

Finish: Mat black finish

Performance

Frequency response: 100 Hz – 15,000 Hz

Directivity: Changeable (from uni-directional to super cardioid characteristics)

Output impedance: Low impedance, unbalanced

Output level (deviation $^{+5}_{-3}$ dB)

	Open circuit voltage
Uni-directional	−64.0 dB (0.63 mV) *1
Super cardioid characteristics	−52.0 dB (2.82 mV)

	Effective output level
Uni-directional	−40.0 dBm *2
Super cardioid characteristics	−28.0 dBm

*1 0 dB = 1 V/1 μ bar, 1,000 Hz
*2 0 dBm = 1 mW/10 μ bar, 1,000 Hz

Recommended load impedance is more than 3 kilohms.

Power requirements: Normal operating voltage: 9 V
Minimum operating voltage: Approx. 6 V
Current drain: Less than 5 mA (at normal operating voltage)
Battery life: Approx. 100 hours with 9 V battery, size 6F22

Maximum sound pressure input level *3
Uni-directional: More than 128 dB SPL
Super cardioid characteristics: More than 108 dB SPL (at 1,000 Hz, 1% distortion, 0 dB SPL = 2×10^{-4} μ bar)
*3 The mean value is taken and converted to the equipment input sound level.

Environmental temperatures
−20°C to +60°C (−4°F to +140°F) for storage
0°C to +60°C (+32°F to +140°F) for operation

MICROFILM

SONY®
SERVICE MANUAL

1. DISASSEMBLY

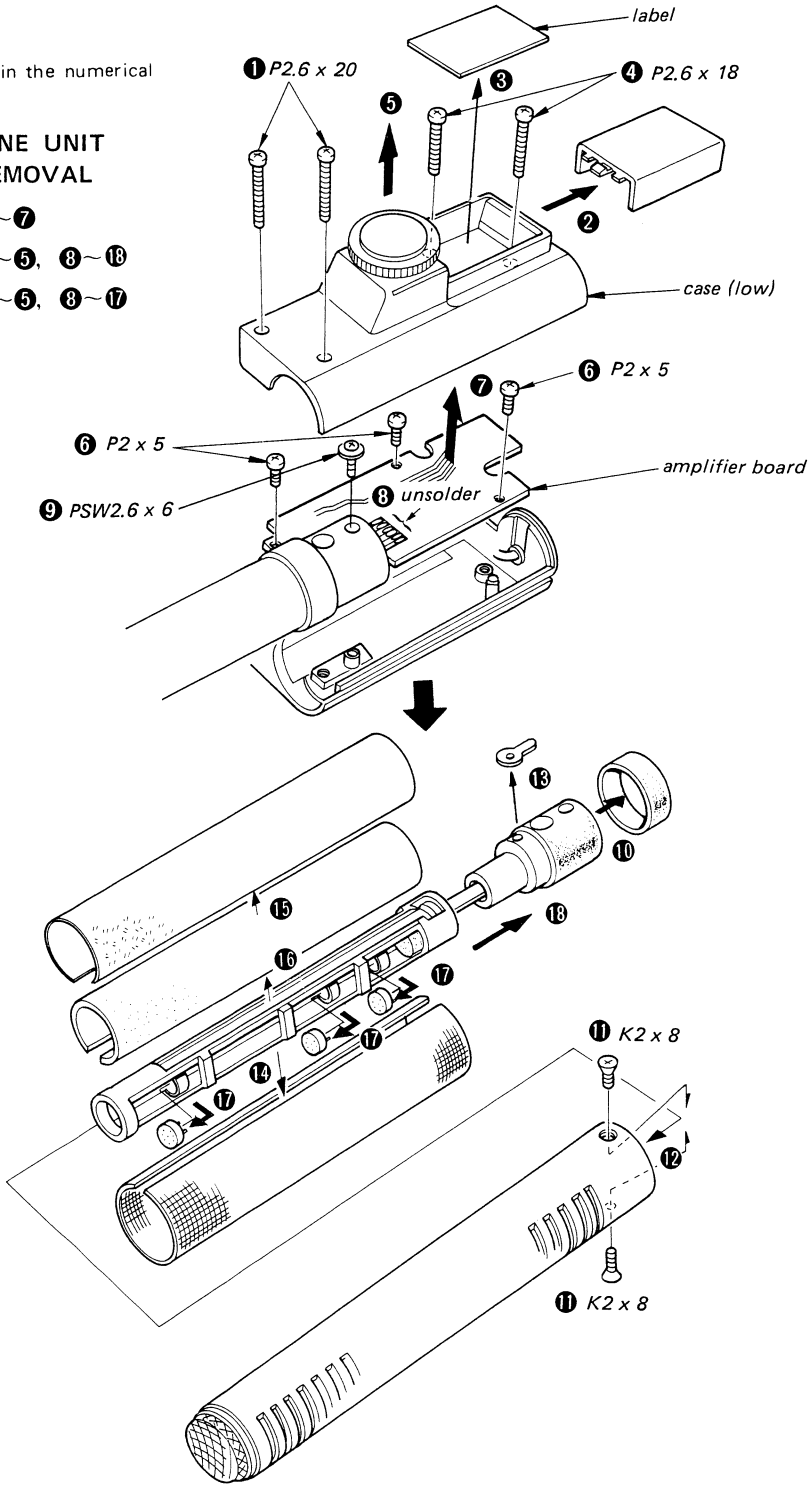
Note: Follow the disassembly procedure in the numerical order given.

AMPLIFIER BOARD, MICROPHONE UNIT BOARD, MICROPHONE UNIT REMOVAL

Amplifier Board Removal: ❶~❼

Microphone Unit Board Removal: ❶~❺, ❽~⓲

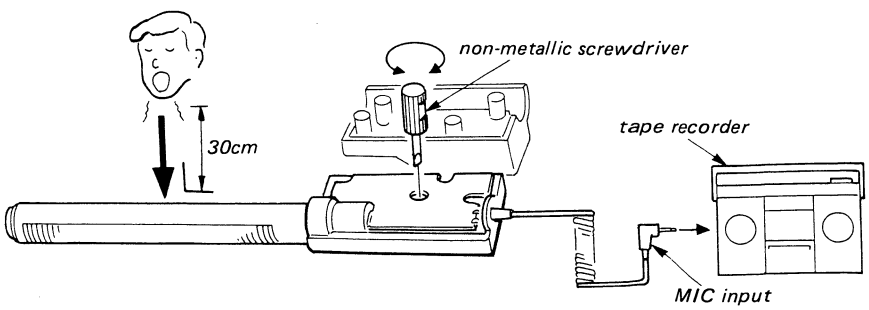
Microphone Unit Removal: ❶~❺, ❽~⓱



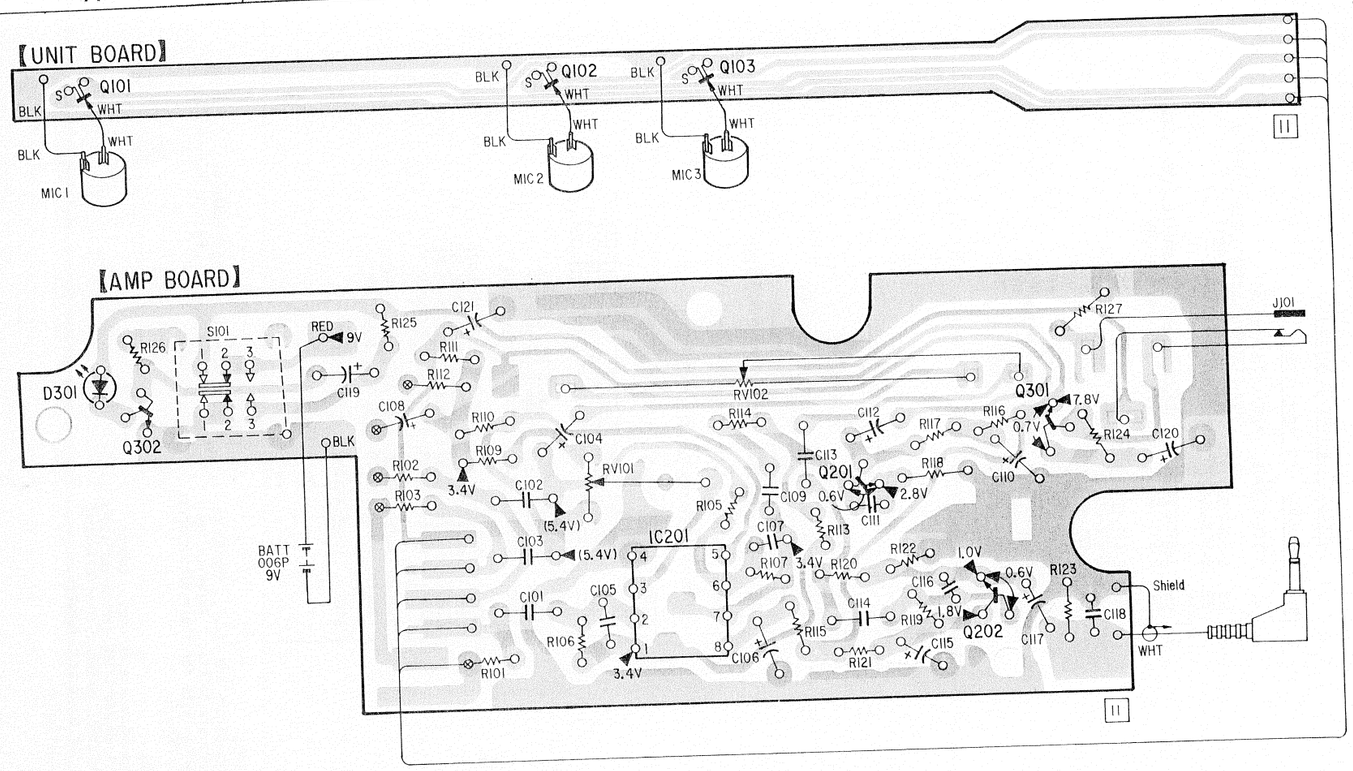
2. DIRECTIVITY ADJUSTMENT

1. Connect the ECM-Z300 to the microphone input of the tape recorder.
2. Apply your voice to the microphone unit at right angle as shown.
3. Adjust RV101 to obtain minimum output from headphone output.

Note: This adjustment should be made when replacing the unit board or amp board.



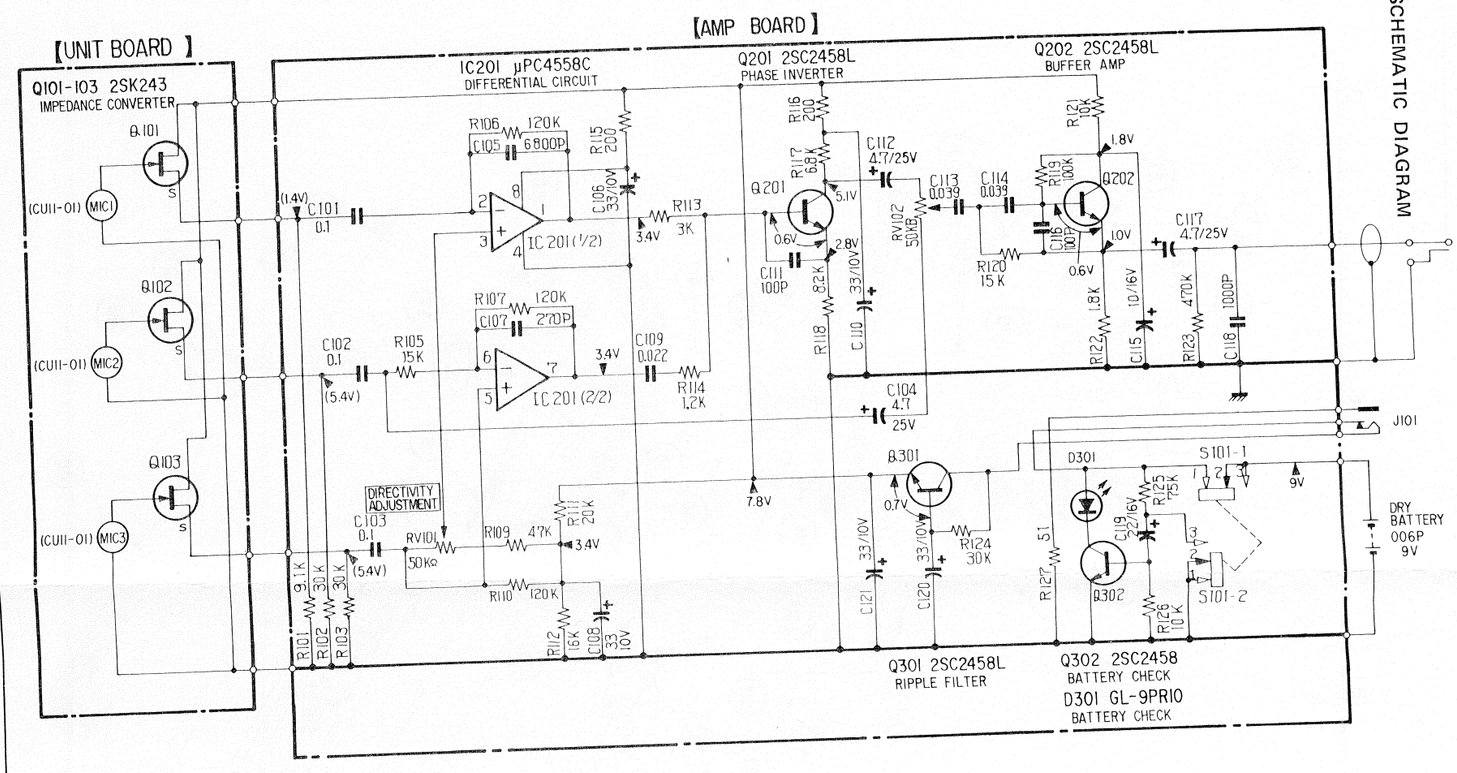
3. MOUNTING DIAGRAM



D	301
Q, IC	101 302 102 IC 201 103 201 202 301

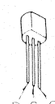
- ○— : parts extracted from the component side.
- ⊗ : Through hole.

4. SCHEMATIC DIAGRAM

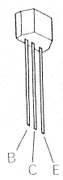


- All capacitors are in μF unless otherwise noted. pF : μμF
  50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in ohms, ¼W unless otherwise noted.
  kΩ : 1000Ω, MΩ : 1000kΩ
- Readings are taken under no-signal (detuned) conditions with a VOM (20kΩ/V).
- Voltages in ( ) are dc with respect to ground about 1 minute after a digital VTVM is connected.

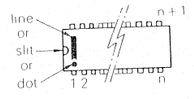
2SK243



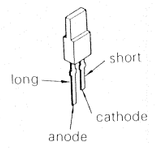
2SC2458L-BL



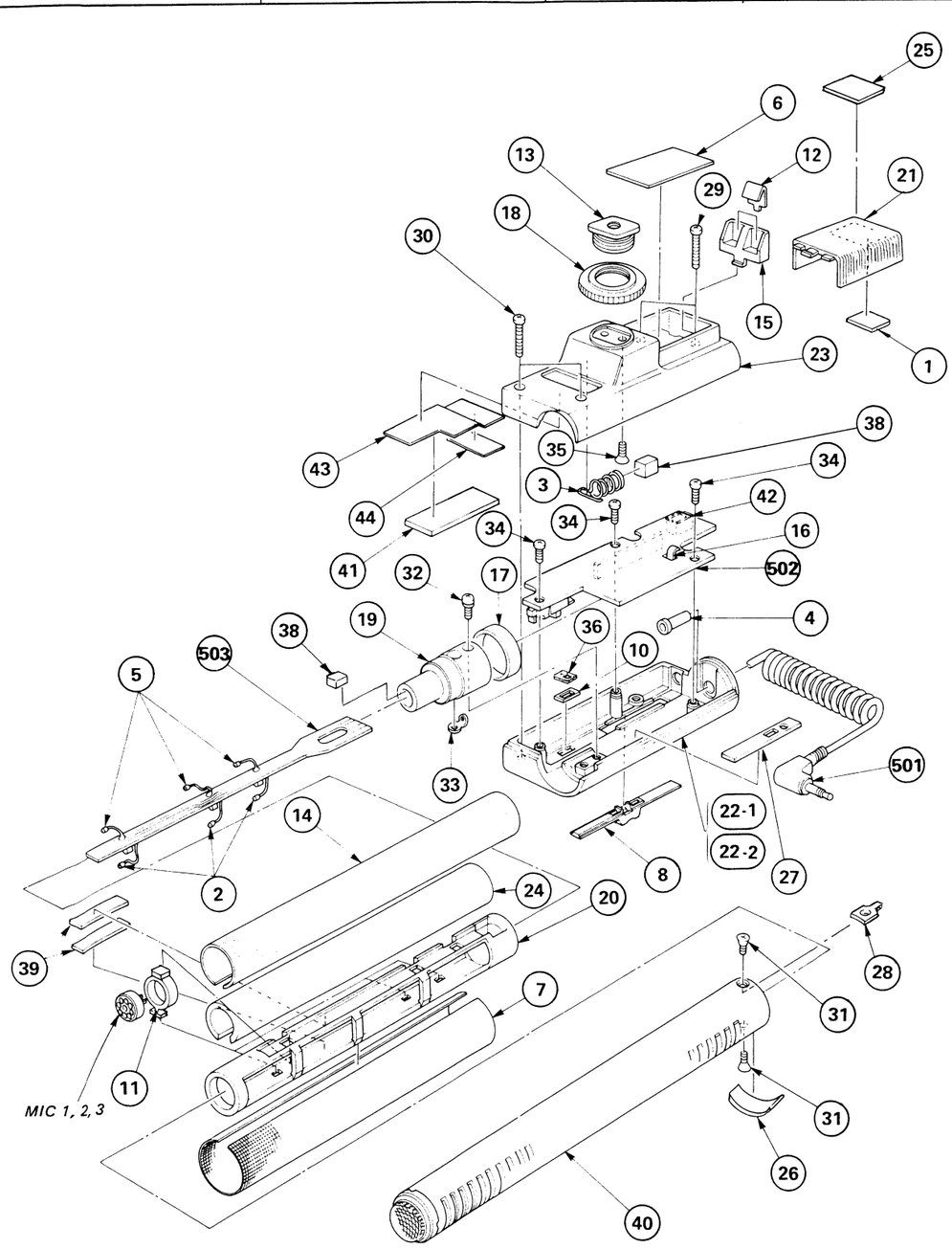
μPC4558C



GL-9PR10



5. EXPLODED VIEW



6. PARTS LIST

GENERAL SECTION

No.	Part No.	Description
1	2-520-118-00	LABEL
2	2-523-713-00	TERMINAL
3	2-526-913-00	CLAMP, BATTERY
4	2-529-733-11	BUSHING, CORD
5	2-529-927-00	TERMINAL (B), GROUND
6	2-531-315-00	LABEL, BATTERY
7	♦;2-532-803-00	GRILLE, SIDE
8	2-532-840-00	KNOB, CONTROL
9	.....	
10	2-532-806-00	COVER, SWITCH
11	2-532-807-00	CUSHION, UNIT
12	2-532-808-00	TERMINAL BOARD, BATTERY
13	2-532-809-00	HOLDER, SHOE
14	♦;2-532-810-00	SCREEN, SIDE
15	2-532-811-00	CASE, TERMINAL BOARD
16	♦;2-532-813-00	SPRING
17	2-532-815-00	CUSHION, CASE
18	2-532-816-00	KNOB, FIXED
19	♦;2-532-818-00	CUSHION (B), FRAME
20	♦;2-532-820-00	FRAME, CAPSULE
21	2-532-822-00	COVER, BATTERY
22	2-532-823-00	CASE (UPPER)
23	2-532-824-00	CASE (LOWER)
24	♦;2-532-826-00	SCREEN (B), SIDE
25	2-532-843-00	LABEL, LID, BATTERY CASE
26	2-532-842-00	LABEL, MICROPHONE CASE
27	♦;2-532-834-00	DAMPER, CASE (UPPER)
28	♦;2-532-836-00	LUG, GROUND
29	7-621-260-10	SCREW +P 2.6X18
30	7-621-260-20	SCREW +P 2.6X20
31	7-621-555-50	SCREW +K 2X8
32	7-621-759-45	+PSW, 2.6X6
33	7-623-505-01	LUG, 2
34	7-685-103-11	SCREW +P 2X5 TYPE2 NON-SLIT
35	7-685-234-19	SCREW +KTP 2.6X8 TYPE2NON-SLIT
36	9-911-844-XX	CUSHION, SWITCH
37	.....	
38	9-911-815-03	CUSHION
39	2-532-833-00	DAMPER, FRAME, CAPSULE
40	A-4514-039-A	CASE ASSY, MICROPHONE
41	2-532-835-00	DAMPER, CASE (LOWER)
42	2-532-839-00	SPACER, JACK
43	♦;2-532-845-01	PLATE, SHIELD
44	♦;2-532-846-00	SHEET, INSULATING

ACCESSORY & PACKING MATERIAL

No.	Part No.	Description
61	1-528-075-00	(E,AEP,UK,Canadian) ...BATTERY, ULUTRA SUPER S-006P(U)
62	1-556-251-00	CORD, CONNECTION (RK-510)
63	1-556-256-00	CORD (WITH PLUG)
64	2-599-194-11	(E,AEP,UK,Canadian)...MANUAL, INSTRUCTION
64	2-599-194-21	(US)...MANUAL, INSTRUCTION
65	2-532-814-00	ADAPTOR, SHOE
66	2-532-821-00	SCREEN, WINDOW
67	2-532-827-00	CASE, CARRYING
68	2-532-830-00	FRAME, INNER
69	2-532-841-00	INDIVIDUAL CARTON
70	3-701-363-00	LABEL, TACK
71	3-793-557-11	INSTRUCTION

ELECTRICAL PARTS

Ref.No.	Part No.	Description
501	1-556-125-00	CORD, MICROPHONE
502	♦;1-607-272-00	PC BOARD, AMP
503	♦;1-606-790-00	PC BOARD, UNIT
504	♦;A-4518-156-A	MOUNTED PCB, AMPLIFIER
D301	8-719-909-10	DIODE GL-9PR10
IC201	8-759-145-58	IC UPC4558C
J101	1-507-563-00	D C JACK
MIC1	8-814-173-00	MICROPHON UNIT (CU11-01)
MIC2	8-814-173-00	MICROPHON UNIT (CU11-01)
MIC3	8-814-173-00	MICROPHON UNIT (CU11-01)
Q101	8-765-656-00	TRANSISTOR 2SK243-6
Q102	8-765-656-00	TRANSISTOR 2SK243-6
Q103	8-765-656-00	TRANSISTOR 2SK243-6
Q201	8-729-205-84	TRANSISTOR 2SC2458L-BL
Q202	8-729-205-84	TRANSISTOR 2SC2458L-BL
Q301	8-729-205-84	TRANSISTOR 2SC2458L-BL
Q302	8-729-245-83	TRANSISTOR 2SC2458
RV101	1-226-238-00	RES, ADJ, CARBON 50K
RV102	1-228-527-00	RES, VAR, SLIDE 50K
S101	1-553-537-00	SWITCH, SLIDE

NOTE:
- Items with no part number and no description are not stocked because they are seldom required for routine service.
- Items marked " ♦ " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- Due to standardization, parts with part numbers (Δ-ΔΔΔ-ΔΔΔ-XX or Δ-ΔΔΔΔ-ΔΔΔ-X) may be different from those used in the set.

CAPACITORS:
- All capacitors are in μF. Common capacitors are omitted. Refer to the following lists for their part numbers. MF:μF, PF:μμF.

RESISTORS
- All resistors are in ohms. Common 1/4W, 1/8W and 1/16W carbon resistors are omitted. Refer to the following lists for their part numbers.
- F : nonflammable

COILS
- MMH : mH, UH : μH

SEMICONDUCTORS
In each case, U : μ, for example:
UA···: μA···, UPA···: μPA···, UPC···: μPC, UPD···: μPD···

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